Shell Oil Products US

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CERTIFIED MAIL

August 26, 2015

Ms. Sharon Lin
Waste and Chemical Section
Enforcement Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Subject: RCRA Inspection – Request for Information
Shell Martinez Refinery – EPA ID No. CAD009164021

Dear Ms. Lin:

On March 30, 2015, USEPA (in conjunction with Department of Toxic Substances Control and Contra Costa County Health Services staff) concluded a RCRA inspection of the Shell Martinez Refinery. The USEPA subsequently sent a Request for Information, dated June 23, 2015. The purpose of this submittal is to respond to the Request for Information.

Please see responses to each of the requested items in the enclosed Attachment I and the enclosed flash drive.

If you should have any questions or need additional information, please contact Mr. Michael Monson at (925) 313-5516.

Sincerely yours,

Natalie Braden

Natalie Braden
Manager – Environmental Affairs
Shell Oil Products US, Martinez Refinery

Enclosure

ATTACHMENT I

Question A.1:

For the following information request, please refer to the undated table prepared by Shell titled *Shell Oil Products US-Martinez Refinery, Total Waste Generated – 2014.*

a. List the units/processes by which the RCRA wastes in the table were generated.

Answer/Comments
The table detailing the unit or process generating RCRA wastes sent off-site during 2014 is included as Attachment I-A.1.

Person(s) Responding and/or Consulted:
Contributors for each response are provided in alphabetical order.
Dunham, Charles (Duke)
Monson, Michael

General Background:
The table previously provided to USEPA during the March 2015 inspection was a summary table generated by Mr. Monson based on information from the individual manifests provided by Mr. Michael Hecker (Q1) and Mr. Dunham (Q2, Q3 & Q4).

Documents Consulted/Examined/Referenced:

- Uniform Hazardous Waste Manifests
- Logistics Hazardous Waste Coordinator's 2014 Hazardous Waste Reports (quarterly)

Question A.2:

Please provide a list of excluded wastes that are exported to a foreign country to be reclaimed. The list must include the following information, quantity of excluded waste generated per year and the facility source(s) of the excluded waste. Additionally, provide documentation that demonstrates that Shell has complied with the export notification requirements for each of the streams listed. See 40 CFR 261.4(a)(25).

Answer/Comments:
Shell Martinez Refinery did not export any excluded wastes to a foreign country for reclamation from January 2012 through June 2015.

Person(s) Responding and/or Consulted:
Dunham, Charles (Duke)
Monson, Michael

Documents Consulted/Examined/Referenced:

- Uniform Hazardous Waste Manifests
- Logistics Hazardous Waste Coordinator's 2012-June 2015 Hazardous Waste Reports (quarterly)
- 40 CFR 261.4(a)(25)

Question A.3:

Shell's 2014 Biennial Report indicates the facility generated F037 as a single waste stream in 2013. However, F037 as a sole hazardous waste stream has not been manifested since 2012, based on data from the *California Department of Toxic Substances Control, Hazardous Waste Tracking System.* Please explain how the F037 waste has been managed by Shell from 2012 to present.

Answer/Comments:
For the time period from 2012 to present, there were no waste streams that carried only the F037 federal waste code. The only waste stream listed in the RY 2013 Biennial Report (submitted in 2014) containing the F037 waste code was SHAKER SOLIDS FROM EQUIPMENT CLEAN OUT, which contained the following federal waste codes: F037, F038, K050 and K051. A July 7, 2015, e-mail from Michael Monson (Shell) to Sharon Lin (EPA) requested clarification on this item, but Shell did not receive a response to this e-mail.

Person(s) Responding and/or Consulted:
Dunham, Charles (Duke)
Monson, Michael

Documents Consulted/Examined/Referenced:
- Uniform Hazardous Waste Manifests
- Logistics Hazardous Waste Coordinator's 2012-June 2015 Hazardous Waste Reports (quarterly)
- 2012 Annual Facility Report
- 2013 Biennial Report
- 2014 Annual Facility Report

Question A.4:

Shell's 2014 Biennial Report indicates that the facility shipped 93.10 tons of a combined F037, F038, K050 and K051 waste stream (Shaker Sludge) to Clean Harbors, Aragonite, UT (Clean Harbors) facility. Clean Harbors' 2014 Biennial Report identifies that 84.65 tons of this waste stream generated by Shell was received by Clean Harbors. Please explain the difference in quantities reported by each of the facilities.

Answer/Comments:
A review of the manifest records from Shell and Clean Harbors revealed that one of the manifests for Shaker Solids (007973087 JJK) was incorrectly listed as "Tank Clean Out with K170" by Clean Harbors. The total quantity for this shipment was 16,860 pounds (8.43 tons). When added to the 84.65 tons reported by Clean Harbors, the total amount received by Clean Harbors is 93.08 tons (which was rounded up by Shell to 93.1 tons in the 2013 Biennial Report). A copy of the manifest is included in Attachment I-A.4.

Person(s) Responding and/or Consulted:
Dunham, Charles (Duke)
Monson, Michael

Documents Consulted/Examined/Referenced:
- Uniform Hazardous Waste Manifest 007973087 JJK
- Logistics Hazardous Waste Coordinator's 2014 Hazardous Waste Reports (quarterly)
- 2013 Biennial Report
- Clean Harbors 2013 Biennial Data Customer Report

Question B.1:

Please provide the following information regarding the recovered oil process:

a. A flow diagram of the recovered oil process. Label each unit of the process (e.g., thermal oxidizer, centrifuge).
b. Please include all process materials and waste inputs in average gallons per day to the process as well as process outputs as average gallons or pounds per day.
    i. Confirm that all inputs to the Recovered Oil Process are via Tank 15096. If any other tanks, including mobile tanks are used to receive and store materials to be processed through the Recovered Oil Process, please identify by tank number, location, and capacity.
c. For each unit of the process, indicate which permits (including permit holder, permit number and permit unit number) under which the units are operating (e.g., tiered, air pollution control), including any contractor obtained permits required for the specific unit.
d. For each unit of the process, provide the monitoring and inspection records for 2012, 2013, 2014 and 2015 required by regulatory agency(ies).
e. Design and operation specifications for each unit of the process including the thermal oxidizer.
f. Describe the management of the waste streams generated from the process and how waste determinations associated with each waste streams were made. If the determinations were based on analytical results, please provide all the analytical results developed by Shell or its contractors since January 1, 2012.
g. Describe the material(s) or waste(s) that is removed from the Recovered Oil Process which is sent to Clean Harbors-Aragonite or Clean Harbors-Buttonwillow.

Answer/Comments:

a. A process flow diagram is included as Attachment I.B-1a.
b. The following information is based on averages from 2012 through June 2015.

Stream Description	Quantity	Units
Recovered Oil Feed	34,000	Gallons per Day
Water Effluent	14,700	Gallons per Day
Recovered Oil	18,150	Gallons per Day
Recovered Oil Solids (Waste)	5,500	Pounds per Day
Barite (pH Control)	600	Pounds per Day
H2S Scavenger	36	Gallons per Day
Demulsifying Agent	14	Gallons per Day

    i. As displayed in the process flow diagram (Attachment I.B-1a), all feed to the Recovered Oil Process is via Tank 15096, which receives oil bearing secondary material from the Brine De-oiling Unit, the Quality Assurance Laboratory (V-18259) and other waste streams transferred to V-15096 via vacuum trucks. The oil bearing secondary material is then transferred to a portable "Mix Tank" where a demulsifying agent, hydrogen sulphide scavenger, and pH control chemicals are added. The Mix Tank is a 20,000 gallon Baker box and is located at the Recovered Oil Processing area.

c.

Equipment	Permit Holder	Permit #	Permit Unit #	Agency/Type
Tank 15096	Shell	A0011	4319	BAAQMD/Permit to Operate
Thermal	Clean Harbors	21430	A18	BAAQMD/Permit to Operate

Oxidizer				
Mix Tank	Clean Harbors	21430	S10	BAAQMD/Permit to Operate
Centrifuge	Clean Harbors	21430	S13	BAAQMD/Permit to Operate

d. The monitoring and inspection records are included as attachments I.B-1d1 (monitoring records) and I.B-1d2 (inspection records). The following table explains the required records and the regulation requiring the record.

Record Type	Regulation	Equipment	Description	Frequency
Inspection	USEPA BWON	Tank 15096	Visible Inspection	Quarterly
Inspection	USEPA BWON	Tank 15096	OVA	Annual
Inspection	USEPA BWON	Mix Tank	Visible Inspection	Quarterly
Inspection	USEPA BWON	Mix Tank	OVA	Annual
Inspection	USEPA BWON	Treatment Train (Centrifuge to Thermal Oxidizer)	Visible Inspection	Quarterly
Inspection	USEPA BWON	Treatment Train (Centrifuge to Thermal Oxidizer)	OVA	Annual
Inspection	USEPA BWON	Carbon Canisters	OVA	Daily
Monitoring	USEPA BWON	Thermal Oxidizer	Record temperature	Hourly
Monitoring	BAAQMD	Mix Tank	Throughput	Annual
Monitoring	BAAQMD	Centrifuge	Throughput	Annual

e.

Parameter	Limit
Maximum Feed VOC Content	95%
Maximum Flow Rate	1,500 CFM
Minimum Emulsion Temperature	150 °F
Maximum Centrifuge Bowl Seed	3,150 RPM
Centrifuge Maximum Vapor Outlet O_2 Content	10%
Maximum Recovered Oil Solids Specific Gravity	1.2
Maximum Blower Outlet Pressure	3 psig
Minimum Scrubber Circulating Caustic pH	9
Maximum Scrubber Circulating Caustic pH	11
Minimum Thermal Oxidizer Temperature	1,400 °F
Maximum Thermal Oxidizer Temperature	1,700 °F
Minimum Thermal Oxidizer Pressure	0.15 in H_2O
Maximum Thermal Oxidizer Pressure	0.35 in H_2O
Thermal Oxidizer Design Heat Duty	4,200,000 BTU/hr

f. Each roll-off bin containing waste solids from the Recovered Oil Process is sampled and analyzed for benzene content (both TCLP and TTLC) and water content. Depending on the benzene concentration, the waste is either sent to Aragonite, UT (TCLP≥0.5 mg/L) or to Buttonwillow, CA (TCLP<0.5 mg/L). Both facilities are operated by Clean Harbors. In addition, the first bin of each month is also analyzed for CAM-17 metals (TCLP, STLC and TTLC), volatiles (EPA Method 8260), and semi-volatiles (TCLP and EPA Method 8270). The analytical reports for 2012 through June 30, 2015 are included as attachment I.B-1f.

g. As mentioned in (f) above, waste solids from the Recovered Oil facilities are sent to Aragonite and Buttonwillow, depending on the benzene content of the material. This waste is an oil-bearing solid waste (CA Waste Code 223 – Unspecified Oil-containing Waste).

Person(s) Responding and/or Consulted:
Lancaster, Brita (Clean Harbors)
Nethery, Brock (Clean Harbors)
Dunham, Charles (Duke)
Monson, Michael

Documents Consulted/Examined/Referenced:
Sierra Process Systems Drawing 3397-042005-21
Sierra Process Systems Drawing 3397-042005-2
Sierra Process Systems 1500 CFM Thermal Oxidizer Installation & Operating Instructions
RecOil_Proc_BB12.xlsx
RecOil_Proc_BB13.xlsx
RecOil_Proc_BB14.xlsx
RecOil_Proc_BB15.xlsx
Haz_2012.xlsx
Haz_2013.xlsx
Haz_2014.xlsx
Haz_2015.xlsx
Shell Martinez Refinery BAAQMD Permit to Operate
Clean Harbors BAAQMD Permit to Operate
40 CFR Part 61 Subpart FF
Equilon Enterprises LLC Consent Decree
Shell Procedure EP-2.18, Benzene Waste NESHAP
Profile CH464843B
Profile CH786324B

Question C.1:
Provide a total number of flare sumps located at the Shell facility and provide a corresponding location figure identifying where each flare sump is located. Explain how accumulated liquids are managed from each one of the flare sumps.

Answer/Comments:
There are 2 Process Area Drain (PAD) sumps located at vapor recovery units associated with flares at Shell: the LOP Flare PAD Sump and the Clean Fuels Flare PAD sump. The accumulated liquids are managed as follows:

- Liquid collected in the LOP Flare PAD Sump is transferred via a pump on level control to the Horizontal Knock-Out vessel V-681, which is then pumped to the Byproduct Oil Separator (BPOS). The sump level is monitored on the board as well as via operator rounds.
- Liquid collected in the Clean Fuels Flare PAD Sump is pumped to the Process Water Tanks. The sump pumps are on level control. The sump level is monitored on the board as well as via operator rounds.

Person(s) Responding and/or Consulted:
Adams, Janae
Casilang, Dante
Pineda, Christian

Lopez, Ruben

Documents Consulted/Examined/Referenced:

Question C.2:
For the following questions, please refer to Photograph CIMG2535. There is a horizontal tank located in the upper right section of the photograph, near a flare sump. The last three visible digits of the numbered tank reads: "681":

a. Describe the purpose of the horizontal tank.
b. List the types of liquids that are captured, stored and/or treated in the tank. Include in the list the approximate average gallons per day of each type of liquid captured, stored, and/or treated in the tank. Additionally, indicate on the list how each of the liquids removed from the horizontal tank are managed.
    i. For each type of liquid describe if the liquid removal is performed by Shell or its contractor.
c. If the liquids are hard piped to another tank, sump or process unit, identify the type of unit the liquid(s) is hard piped to (e.g., underground sump, Sump #).
d. Provide a current figure showing the locations of any similar horizontal tanks.
e. Provide any liquid removal records generated either by Shell or its contractors since January 1, 2012.

Answer/Comments:
a. Vessel V-681 is a horizontal knock-out pot for the LOP Flare. The purpose of the vessel is to provide the residence time necessary to allow de-entrainment of liquids from the vapor stream to the Vapor Recovery and Flare System. The knock-out pot also receives and accumulates liquid pumped from the LOP Flare PAD sump.

b. Continuous flows to the Vapor Recovery and Flare System are from various process vents that are typically vapor phase streams that condense in V-681. Rare, intermittent flows to V-681 are from pressure safety relief valves and depressuring (HIC) valves (used in the process units to prevent equipment overpressure, which could result in vessel rupture and release of process materials). The primary liquid material to V-681 is water with the potential for various hydrocarbon liquids (from gasoline range to distillates). No treatment takes place in V-681.

    i. The liquid level is monitored and managed by Shell operators. The board operator receives a high level alarm when the knock-out pot reaches 45% and a high-high level alarm when the knock-out pot reaches 70%. The outside operator also monitors the liquid level in V-681 as part of the operator rounds. The normal liquid accumulation rate in V-681 is approximately 9,400 gallons per day.

c. Vessel V-681 is hard piped to the vertical knock-out pot, V-608, which is hardpiped to the Byproduct Oil Stripper (BPOS) Column Col-172 or the crude off-spec tank. The normal line-up is to the BPOS, which is an oil/water separator.

d. Similar flare horizontal knock-out pots are located at the Clean Fuels Flare and the OPCEN Hydrocarbon Flare, shown on Attachment I-C.2.d.

e. The monitoring records (daily averages) of the liquid level in V-681 are included in Attachment I-C.2.e. The use of daily averages is appropriate as the time required for the vessel level to reach the high liquid level alarm following pump out is approximately 3 days. From September 8, 2012 to January 22, 2013, V-681 material was routed directly downstream to V-608 because V-681 was bypassed for a project.

Person(s) Responding and/or Consulted:
Adams, Janae
Lopez, Ruben
Monson, Michael

Documents Consulted/Examined/Referenced:
Process Monitoring Data

Question D.1:

Submit documentation that demonstrates the Shaker Tank at the Liquid Waste Handling Site meets 22 California Code of Regulations (CCR) 66265 Article 10 [40 Code of Federal Regulation (CFR) 265 Subpart J] tank requirements (assessment of existing tank system's integrity, containment and detection of releases, evidence of daily inspections). If such documents do not exist, please confirm and provide explanation as to why the tank has not been assessed.

Answer/Comments:
The Shaker system at the Liquid Handling Site consists of 8 containers (commonly referred to as "Baker Boxes" or "Baker Tanks"). These containers are equipped with wheels and can be (and are) moved to different locations at the refinery as needed. 22 CCR 66265 defines a container as "any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, recycled or disposed of." A tank is defined as "a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support."

Based on definition, the Baker Boxes are containers, and therefore not subject to the Article 10 requirements that apply to tanks.

Person(s) Responding and/or Consulted:
Monson, Michael

Documents Consulted/Examined/Referenced:
22 CCR 66260.10

Question E.1:

The following information/documentation for Tank V18259 is being requested:

a. Provide tank assessment information (certification, engineering diagrams, etc.) for Tank V18259, discarded laboratory materials accumulation tank.
b. Confirm at the time of the inspection where the contents of the tank were being transferred to (specific unit name and number). For 2012, 2013, 2014 and 2015 to date provide copies of all transmittal records prepared by Shell or its contractors (i.e., internal tracking documents from the tank to the process unit(s)).
c. Provide a list and a Safety Data Sheet (SDS) of each type of discarded solvent that is placed in the tank. Explain how the discarded solvents placed in the tank are recovered or reclaimed by Shell or its contractors. Provide any supporting documentation that demonstrates that the solvents are legitimately being reclaimed by Shell or its contractors.

d. Confirm that only discarded solvents and associated laboratory samples are placed in the tank. If this is not the case, please provide a list and SDS of the other materials that are placed in the tank.

Answer/Comments:

a. Under the California Health and Safety Code, §25144(c), equipment that is part of a system used for the recovery of oil from oil-bearing materials and the associated storage of oil-bearing materials and the recovered oil are exempt from the requirements of Chapter 6.5, including the storage tank requirements of 22 CCR Division 4.5, Chapter 15, Article 10 (as referenced by HSC §25143.9(c)). A drawing of V-18259 as well as the latest inspection record is included as Attachment I-E.1.a.
b. The material from V-18259 is hard piped to Tank 15096 at the Recovered Oil Processing facility. There is a high level alarm with a beacon that notifies QA personnel when the material in the tank needs to be transferred. As this is a manual operation without automatic control system instrumentation, there are not any records indicating dates and times that material was transferred from V-18259 to Tank 15096.
c. The following table lists the discarded solvents that are placed in V-18259. SDS's for each of the solvents are included as Attachment I-E.1.c.

SOLVENT	MANUFACTURER
2-Hexanone 98%	Alfa Aesar
Acetone – Reagent Grade	Fisher Scientific
Bromine Number Titration Solvent	Ricca Chemical Company
Butyl Disulfide - ≥98%, 100 mL	Sigma-Aldrich
Chloroform – Stabilized, 99.8%	Acros Organics
Decane Analytical Standard – Fluka, 25 mL	Sigma-Aldrich
D-Limonene	
Heptane (Reagent Grade) – n-Heptane	Fisher Scientific
Hexadecane – n-Hexadecane, 99%, 500 mL	Alfa Aesar
Hexane – Reagent Grade, UV	Fisher Scientific
Isooctane – Reagent Grade, 4L	Fisher Scientific
Iso-Propyl Alcohol, 99.9%, HPLC grade	Fisher Scientific
Kerosene – Drum	
Methanol	Fisher Scientific
Nonane Analytical Standard – Fluka, 50 mL	Sigma-Aldrich / Fluka Chemical
Octane Analytical Standard – Fluka, 50 mL	Sigma-Aldrich / Fluka Chemical
Pentane, Reagent Grade	Alfa Aesar
pH Buffer – 10	Thermo Scientific
pH Buffer – 4	Thermo Scientific
pH Buffer – 7	Thermo Scientific
pH QC Standard – 6.0 Buffer Soln, 500 mL	Ricca Chemical Company
pH QC Standard – 8.0 Buffer Soln, 500 mL	Ricca Chemical Company
Potassium Chloride, 3M	Sigma Aldrich
Potassium Hydroxide (KOH), 0.1 N in Isopropyl Alcohol, 1L	Ricca Chemical Company
Potassium Hydroxide, 0.01N in Isopropyl Alcohol	Ricca Chemical Company
RSA – XBT67 55R BT Solvent, Drum	Van De Pol Petroleum
Silver Nitrate, 0.01N (alc)	Ricca Chemical Company
Toluene – Reagent Grade, 4L	Fisher Scientific
Xylene (Certified ACS), Fisher Chemical	Fisher Scientific

d. Only discarded solvents and associated laboratory samples are placed in the tank.

Person(s) Responding and/or Consulted:
Beck, Michael
Jones, Wayne
Monson, Michael
Raver, Chuck
Vorderbrueggen, Ann

Documents Consulted/Examined/Referenced:
California Health & Safety Code
Inspection Drawing 717493

Question F.1:
Provide a list and location figure of the facility sumps that potentially receive process spillage. Please indicate which of the sumps listed can discharge to Lake Slobodnik.

Answer/Comments:
The process area sumps that could receive process spillage are provided in the table below:

Process Sump	**Does Sump Release Directly to Lake Slobodnik?**
DCU PAD Sump	No
HGHT PAD Sump	No
DHT PAD Sump	No
Isomerization PAD Sump	No
CGDP PAD Sump	No
VGT/CR2 PAD Sump	No
Clean Fuels Flare Compressor PAD Sump	No
Utilities PAD Sump	No
SRU4 PAD Sump	This sump is routed to the Effluent Treatment Plant. Piping exists that would allow this sump to be routed to Lake Slobodnik but the valve is normally closed.
Reservoir Pump House	No
Loading Pumphouse Sump	No
Low Point Sump	This sump is normally pumped to the Effluent Treatment Plant. However, during high rainfall periods it does get pumped to LakeSlobodnik.
Marina Vista North Gate Sump	No
Old Asphalt Entrance Gate Sump	No
T-Head Sump	No
SJV Tank Levee Sump	No
Tank 1072 Levee Sump	No
Old Meter Prover Sump #1	No
Old Meter Prover Sump #2	No
Old Meter Prover Sump #3	No
Bay Area Pipeline Sump	No
New Meter Prover Sump	No
Land's End Sump	No
LOP North/South Sewer Boxes	No

CTRP Sump	No
Tank 1256 Sump	No
Tank 1257 Sump	No
Bundle Pad Sump	No
LOP Flare Sump	No

Also note that generally each aboveground storage tank at the refinery has a sump in its levee that is present to receive tank water draws as well as roof drain water. These sumps are routed via gravity to the Effluent Treatment Plant and are not specifically identified in the table above.

Person(s) Responding and/or Consulted:
Armour, Michael
Bambach, Craig
Lopez, Ruben
Hilderbrand, Grayson
Lawson, Lloyd
Pineda, Christian
Hornsby, Joe
Morgan, David
Cooper, Lou
Martin, Valerie
McNally, Sharon
Hernandez, Rick

Documents Consulted/Examined/Referenced:
Google Earth

The sump location figures are attached below.

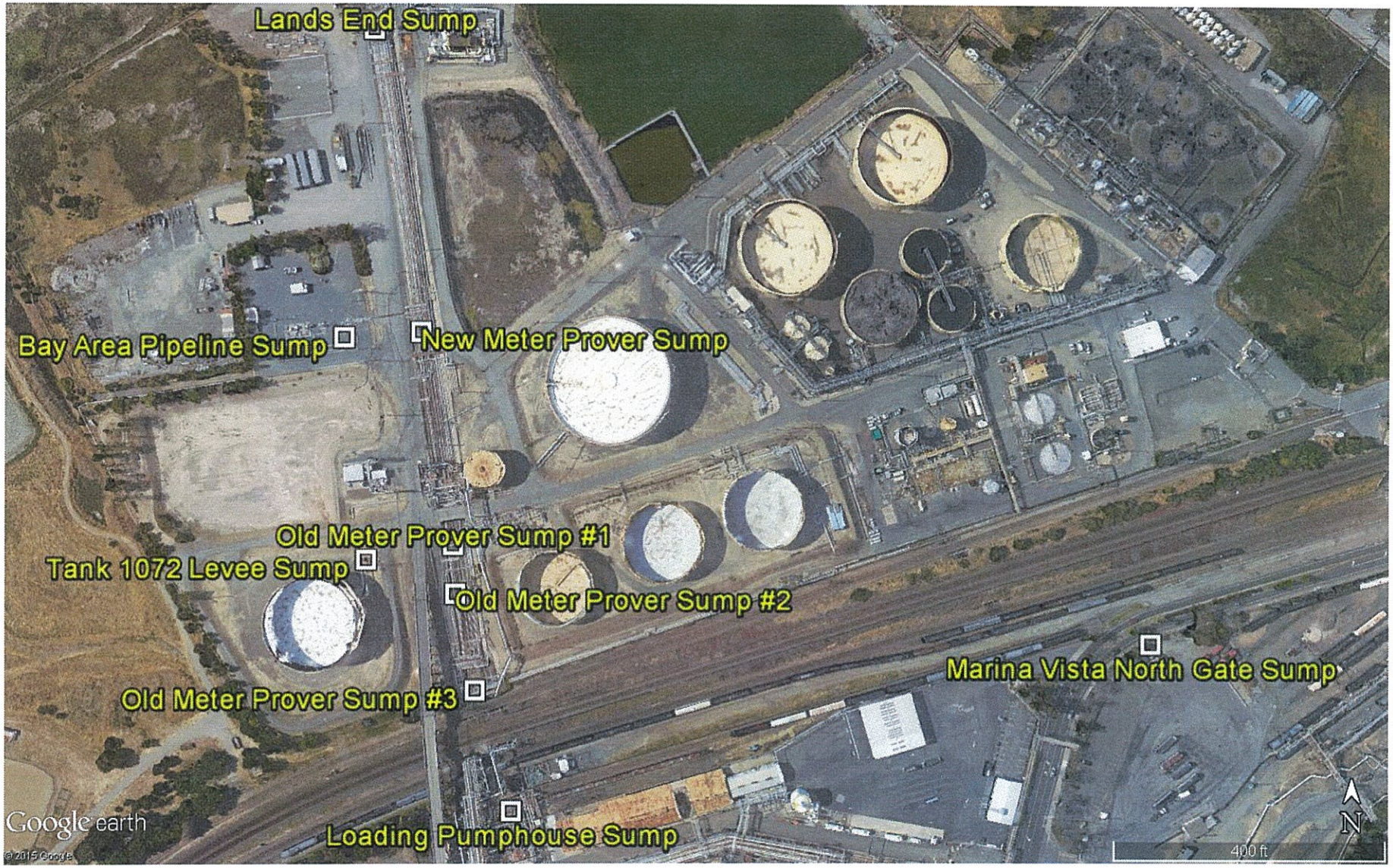

Lands End Sump
Bay Area Pipeline Sump
New Meter Prover Sump
Old Meter Prover Sump #1
Tank 1072 Levee Sump
Old Meter Prover Sump #2
Marina Vista North Gate Sump
Old Meter Prover Sump #3
Loading Pumphouse Sump
Google earth
© 2015 Google
400 ft
N

Figure F-1


Old Asphalt Entrance Gate Sump
SRU-4 PAD Sump
Google earth
© 2015 Google
800 ft
N

Figure F-2


HP-3 PAD Sump
DCU PAD Sump
DHT PAD Sump
HGHT PAD Sump
VGT/CR2 PAD Sump
SJV Tank Levee Sump
Low Point Sump
Flare Gas Recovery PAD Sump
ISOM PAD Sump
Tank 1256 Sump
CGDP PAD Sump
Tank 1257 Sump
Reservoir Pumphouse
CTRP Sump
SJV Pump Pit Sump
Utilities PAD Sump
Google earth
N

Figure F-3


T-Head Sump
Bundle Pad Sump
LOP Flare Gas Recovery Sump
Google earth
© 2015 Google
500 ft
N

Figure F-4

Question G.1:

Confirm whether recoverable materials and/or wastes are treated in any tanks or containers prior to reclamation at the Shell Martinez facility. Provide a list of all process materials and/or wastes that are treated prior to reclamation, the method of treatment and average monthly treatment rate in gallon per day for each process materials or wastes that are treated prior to reclamation, the tank number of the treatment unit or the type of container (whichever is applicable), the amount and classification of any by-products or wastes generated from the treatment prior to reclamation and from the reclamation process and a current figure where each treatment/reclamation process is located.

Answer/Comments:
Per 40 CFR 261.1(c)(4), a material is reclaimed if it is processed to recover a usable product, or it is regenerated. Under this definition, the following hazardous secondary materials are reclaimed at the Shell Martinez Refinery:

- Shell has a Tiered Permit for a Container Rinsing and Crushing unit (Conditionally Exempt Tier). The permit allows for containers that are empty under the RCRA regulations to be rinsed. The rinsed containers are either re-used on-site or crushed and sent to a scrap metal recycler. This is the only waste stream that is treated prior to reclamation.
- A combined stream consisting of primary oil/water/solid separation sludge, secondary (emulsified) oil/water/solid separation sludge, heat exchanger bundle cleaning sludge, and API separator sludge. This material is processed at the "Shaker" and reclaimed at the Delayed Coking Unit, and is excluded from the definition of solid waste per 40 CFR 261.4(a)(12)(i). Approximately 2,900 gallons per day of this material is processed at the Shaker, where larger solids are physical separated from the liquid stream that is reclaimed at the DCU. The solids are stored in a roll-off bin prior to disposal (incineration) at Clean Harbors Aragonite, UT facility.
- Oil bearing hazardous secondary materials are reclaimed at the Recovered Oil Processing unit. No treatment occurs prior to reclamation. As mentioned above, approximately 34,000 gallons per day of oil bearing hazardous secondary materials are reclaimed at the Recovered Oil Process unit. This stream is excluded from the definition of solid waste per 40 CFR 261.4(a)(12)(i).
- Diethanolamine (DEA) is a process material that is regenerated in 4 different DEA units at the refinery. DEA is used to remove hydrogen sulphide from various process streams in the refinery, and the DEA is not treated prior to reclamation (regeneration). Approximately 2,000,000 gallons of DEA is regenerated per day.
- Sour Water is a process material that is regenerated in 5 different Sour Water units at the refinery. Sour water is used to remove hydrogen sulphide from various process streams in the refinery. The sour water is not treated prior to reclamation. Approximately 1,500,000 gallons of sour water is regenerated per day.
- Caustic is a process material that is regenerated at Caustic Regen #2 (CR2). The caustic is used to remove sulphur compounds from process streams in the refinery. The caustic is not treated prior to reclamation. Approximately 150,000 gallons of caustic is regenerated per day.

In addition, there is one additional stream that is reclaimed at an off-site facility:

- Spent sulphuric acid is regenerated at Eco Services (formerly Solvay). No treatment occurs prior to sending the material to Eco Services. This stream is excluded from the definition of solid waste per 40 CFR 261.4(a)(7).

Person(s) Responding and/or Consulted:

Johnson, Gordon
Monson, Michael
Ruff, Brian

Documents Consulted/Examined/Referenced:
2013 Hazardous Waste Biennial Report
2014 Hazardous Materials Business Plan submittal
40 CFR 261

Question G.2:

Please provide the total number of portable containers, commonly referred to by Shell personnel as "R2D2s" used to collect hazardous waste and/or Excludable Recyclable Material.

Answer/Comments:
There are a total of 19 containers referred to as "R2D2s" that are used to collect Excluded Recyclable Material (hydrocarbon material generated while collecting samples). This material is excluded from the definition of waste per 40 CFR 261.4(a)(12)(i) – Oil bearing hazardous secondary materials.

Person(s) Responding and/or Consulted:
Hall, Mike
Martin, Valerie
McNally, Sharon
Monson, Michael

Documents Consulted/Examined/Referenced:
40 CFR 261

Question H.1:

Provide any waste determination information and/or analysis, if available, of the sandblast grit located at the sandblast area where Brand, Shell and/or other contractors perform sandblasting and painting activities.

Answer/Comments:
Analytical results are included as Attachment I-H.1.

Person(s) Responding and/or Consulted:
Johnson, Gordon
Monson, Michael

Documents Consulted/Examined/Referenced:
TestAmerica Analytical Report 720-66687-1

Question H.2:

Provide an inventory of paint products and typical amounts of each product typically used by Brand at the sandblast area, including SDSs for each of the products used.

Answer/Comments:

The list of paint/coating products and typical usage amounts is included in the table below. Safety Data Sheets are included as Attachment I-H.2.

Manufacturer	Product	Typical annual Usage
Carboline	Phenoline 1205	80 Gallons
Carboline	Carboguard 890	300 Gallons
Carboline	Carbomastic 15	150 Gallons
Carboline	Carbothane 134 VOC	250 Gallons
Carboline	Carbozinc 11	250 Gallons
Carboline	Carbozinc 859	150 Gallons
Carboline	Thermaline 450	25 Gallons
Carboline	Thermaline 4700	10 Gallons
Carboline	Thermaline 4900	10 Gallons
Carboline	Plasite 4550	550 Gallons
Carboline	Plasite 4550 S	100 Gallons
Carboline	Procrete 241	2 Bags
Carboline	Rustabond	50 Gallons
Carboline	Bitumastic 300M	50 Gallons
Carboline	Thinner 2	200 Gallons
Carboline	Thinner 10	25 Gallons
Carboline	Thinner 25	25 Gallons
Carboline	Thinner 33	50 Gallons
Carboline	Thinner 72	25 Gallons
Carboline	Thinner 76	200 Gallons
Carboline	Thinner 213	50 Gallons
Carboline	Thinner 214	25 Gallons
Carboline	Thinner 215	25 Gallons
Carboline	Thinner 236	25 Gallons
Sherwin Williams	Macropoxy 646	150 Gallons
Sherwin Williams	TarGuard Low VOC	50 Gallons
Sherwin Williams	Zinc Clad II Plus	100 Gallons
Sherwin Williams	HS Polyurethane	100 Gallons
Sherwin Williams	PROPARK	75 Gallons
Sherwin Williams	AST250	10 Gallons
Sherwin Williams	SHERCRYL	50 Gallons
Sherwin Williams	DTM ACRYLIC	25 Gallons
Sherwin Williams	STRIPING PAINT	150 Gallons
Sherwin Williams	PREPRITE PROBLOCK	100 Gallons
Sherwin Williams	SUPERPAINT	100 Gallons
Sherwin Williams	SHERLASTIC	100 Gallons
Sherwin Williams	MEK	25 Gallons
Sherwin Williams	Xylene	25 Gallons
Sherwin Williams	Acetone	25 Gallons
Sherwin Williams	Reducer #111	25 Gallons
Belzona	Ceramic XHT	2 Kits
Belzona	MP Hi-Build Elastomer	2 Kits
Belzona	Magma-Stop	2 Kits

Person(s) Responding and/or Consulted:
Oliver, Jeff (Brand)

Owens, Chad (Brand)
Payn, Robert

Documents Consulted/Examined/Referenced:

Question I.1:

Shell is required by 22 CCR 66262.34(a)(4); 66265.16 [40 CFR 262.34(a)(4); 265.16] to develop a personnel training program that teaches facility personnel in a way that ensures the facility's compliance with the hazardous waste requirements necessary for their job. Shell utilizes contractors to perform work that generates hazardous wastes (e.g., Brand). Based on EPA observations made during the inspection of the sandblast area, the waste management practices of Shell's contractor (Brand) were inadequate. Provide a detailed description of the procedures Shell has in place to ensure contractor compliance with generator hazardous waste management requirements for work performed on behalf of Shell.

Answer/Comments:

1. Prior to contract company performing on site, they must be approved. After they have been approved, a periodic review of the contract company performance is done to manage continued compliance with requirements for working on site. This approval includes the following:

    - Assessment of HSSE risk associated with the work to be performed by Contractor.
    - Assessment of Contractor HSSE Capabilities to manage the HSSE risk of the work at Shell Martinez Refinery (SMR).
    - HSSE variance development and approval process for Contractors not meeting SMR requirements.
    - Contract HSSE language requirements.
    - Contractor HSSE management requirements for Subcontractors.
    - Process for the verification of Contractor understanding of SMR HSSE requirements.
    - SMR requirements and process to verify and audit Contractor HSSE Management Systems.
    - SMR requirements for managing Contractor HSSE performance while work is in progress.

    A significant portion of this information is verified using ISNetworld, a web-based contractor compliance and management system.

2. On an annual basis, every individual contractor is required to complete site specific training which is provided by Occupational Safety Councils of America (OSCA). The site specific training includes instructions on the handling of known and unknown waste streams, and specifies that unknown waste is to be treated as hazardous until a determination is made by Environmental. The Hazardous Waste Coordinator is identified for contact if unsure of where to dispose of material.

3. Where contract personnel would be required to respond to a spill or release of hazardous waste, they have been trained to the appropriate HAZWOPER level, and the training records are periodically audited by Shell personnel.

4. Contractor HSSE PSM audits are performed periodically. These audits have an environmental component to review if applicable procedures are in place for various environmental items and review records associated with the training of their employees for the reporting of environmental incidents or potential incidents (spills, odors, etc.)

5. Shell Martinez certifies with an ISO14001 certifying body that performs an assurance audit once per year. This audit focuses on an assurance of site performance/practices (Shell and contractors) against our environmental management system which includes our environmental procedures and our process for periodically assuring compliance against regulatory requirements on some frequency.

6. Shell Corporate performs periodic compliance audits against our regulatory requirements of the Shell Martinez Refinery (Shell and contractors). These audits are internal to Shell but external to the Shell Martinez Site.

7. All contractors are invited to a monthly SCUFS (Shell and Contractors United for Safety) meeting where HSSE issues are discussed. One meeting a year is hosted by the Environmental department who gives a refresher on Waste Management along with soliciting feedback from the contractors.

8. In addition, as part of Shell's Permitted Work Audit program, jobs are audited by Shell personnel. One section of the audit includes verifying that wastes are being placed in the proper containers, and that the containers are properly labeled.

Person(s) Responding and/or Consulted:
Braden, Natalie
Johnson, Rick (OSCA)
Leonard, John
Monson, Michael
Nethery, Brock (Clean Harbors)
Payn, Robert
Tupper, Andrew
Vaughn, Travis

General Background:
22 CCR §66262.34(a)(4) requires that "the Generator" (in this case, Shell) complies with Chapter 15 Article 3 (Preparedness and Prevention), Article 4 (Contingency Plan and Emergency Procedures), 22 CCR §66265.16, and 22 CCR §66268.7(a) (Land Disposal Restrictions).

The specific requirements for each section that apply to contractors are:
Chapter 15 Article 3 (Preparedness and Prevention)
Requires that personnel handling hazardous waste have access to communications equipment to report any spills or releases of hazardous waste.

Chapter 15 Article 4 (Contingency Plan and Emergency Procedures)
If there are actions that we expect the contractor to perform responding to a spill or release of hazardous waste, these actions must be included in the Contingency Plan.

22 CCR §66265.16 (Personnel Training)
Requires that personnel are trained in hazardous waste management procedures "relevant to the positions in which they are employed." Must include information on how to effectively

carry out their emergency response activities and how to use and maintain emergency response equipment that they will use. If the contractor is not expected to perform emergency response activities, only need to know how to report a spill or release.
Training is to be repeated annually.
Also requires a written job description (and names of personnel filling each position) for each position that manages hazardous waste.

22 CCR §66268.7(a) (Land Disposal Restrictions)
Nothing in this section applies to contractors.

Documents Consulted/Examined/Referenced:
Shell Procedure I(A)-42, Contractor HSSE Selection & Management
Logistics Call Card LO49002E
SMR Permitted Work Audit Checklist
OSCA Training
ISNetworld

Question J.1:

Shell provided with EPA a bundle cleaning pad sumps cleaning log dated March 19, 2015. Confirm that the bundle pad trench and sump were cleaned out by Shell's contractor, PSC. Provide the complete name(s) of the PSC person(s) who cleaned out the trench and sump. Other Bundle Pad log information/documentation requested is as follows:

a. Provide the complete name(s) of the person(s) who performed the cleaning the bundles, sump and bundle pad.
b. The following was written in the comments section of the log: "Only one sump pump working." Please identify on a current figure the location of the sump that was working and the sump that was inoperable.
c. The log did not indicate how much heat exchanger bundle cleaning sludge waste (K050) was removed from the sump(s). Please provide the amount of K050 wastes that was removed on March 19, 2015. Also provide the date when K050 waste was first placed in the sump(s) (i.e., prior to March 19, 2015 when was the first heat exchanger bundle placed on the pad for cleaning.)
d. Please confirm whether or not there was any accumulated K050 waste sludge in the inoperable sump prior to March 19, 2015.
    i. Please provide information and/or supporting documentation (e.g., work order) on when and why the sump became inoperable.
    ii. Please confirm whether or not there were any solids removed from the sump prior to making any repairs. If solids were removed, please provide the amount solids in gallons, pounds or tons removed.
    iii. Provide copies of the maintenance records of the inoperable sump for 2014 and 2015, including any cleanouts of the sump required to repair the sump.
e. The following was also written in the comment section of the log: "PSC cleaned the trench and sump on this date 3-19-15." Please identify on a current figure of the Bundle Cleaning Pad, the exact portion of the trench that was cleaned.

Answer/Comments:

a. Information regarding personnel cleaning the bundles is not routinely documented. With regard to the March 19, 2015 Bundle Cleaning Pad inspection, several bundles had been cleaned the week prior to the inspection. PSC is the contractor that cleans and inspects the bundle cleaning pad. On March 19, 2015, the pad was cleaned and inspected by Anthony Miller (PSC).

b. The east/lower cleaning area has one sump with two diaphragm type discharge pumps, one of which was not functioning during the March 19, 2015 inspection. Please refer to Figure F-4 above.
c. According to the contractor (PSC), no solids were removed as part of the inspection. The contractor rinsed the lower Bundle Cleaning Pad and trench to the main sump. This is confirmed by the "Vac Truck Deliveries to Main Site Sludge Tanks" form maintained by Clean Harbors, which does not show any deliveries originating at the Bundle Cleaning Pad for March 19, 2015 (see Attachment I-J.1.c). Material had previously been removed from the Bundle Cleaning Pad sump on February 4, 2015.
d. As described above, the sump contains 2 pumps, one of which was working at the time of the inspection (typical operation is one pump in "Auto" and the other pump is in "Standby" service).
    i. During the inspection on March 19, 2015 it was noted that one of the two sump pumps was not functional. The pump was noted as functioning properly during the February 18, 2015 inspection.
    ii. Based on the "Vac Truck Deliveries to Main Site Sludge Tanks" forms, there were no deliveries from the Bundle Cleaning Pad between the March 19, 2015 and April 14, 2015 inspections.
    iii. Sump pump repairs were completed on the following dates (see Attachment I-J.1.d):
    February 11, 2014
    February 28, 2014 (65 barrels removed February 26, 2014)
    March 21, 2014
    November 12, 2014
e. The trenches on the East (lower) cleaning area were cleaned. See Attachment I-J.3.

Person(s) Responding and/or Consulted:
Monson, Michael
Payn, Robert
Spangler, Erick
Miller, Anthony (PSC)
Nethery, Brock (Clean Harbors)
Velasco, Chris (PSC)

Documents Consulted/Examined/Referenced:

Question J.2:

Provide documentation (e.g., standard operating procedures) of Shell's inspection program for the Bundle Cleaning Pad that was in place at the time of EPA's 2015 RCRA inspection.
a. Confirm with appropriate documentation that the Bundle Cleaning Pad inspection program includes inspecting the pad for deterioration, including cracks.
b. Provide copies of documented Bundle Cleaning Pad inspections completed in 2012, 2013, 2014 and 2015.
c. Please confirm if Shell or its contractor's perform the inspections. Identify which contractors perform Bundle Cleaning Pad inspections.
d. For Bundle Cleaning Pad inspections performed by Shell's contractors, provide a written description of the program Shell has in place to ensure the contractor's are performing adequate inspections of the Bundle Pad.

Answer/Comments:

The Bundle Cleaning Pad inspection program is outlined in section 6.5 of Shell procedure GMP-2, Bundle Pad Access, included as Attachment I-J.2.

a. The inspection program (as described in Section 6.5) does not explicitly include identifying deterioration of the Bundle Cleaning Pad.
b. Inspection forms for 2015 are included as Attachment I-J.2.b. Shell believes these inspections were performed based on verbal confirmation from the contractor PSC; however, neither Shell nor the contractor are able to locate the inspection forms for 2012 through 2014.
c. Bundle Cleaning Pad inspections are performed by PSC.
d. Per procedure GMP-2, Monthly Bundle Cleaning Pad inspection forms are to be turned over to the Logistics Hazardous Waste Coordinator (Shell). In addition, at the end of major maintenance activities (turnarounds), Shell personnel verify that the Bundle Cleaning Pad has been properly cleaned.

Person(s) Responding and/or Consulted:
Dunham, Charles (Duke)
Monson, Michael
Payn, Bob
Spangler, Erick
Velasco, Chris (PSC)

Documents Consulted/Examined/Referenced:
Shell Procedure GMP-2, Bundle Pad Access

Question J.3:

EPA uses the terms "east" and "west" bundle pads to describe the two pads. Shell uses the terms "lower" and "upper" sections to describe the pads. Please provide a current figure of the Bundle Cleaning Pad area that clearly shows what Shell is describing as the lower and upper pads. The figure does not have to be to scale.

Answer/Comments:
The "east" pad corresponds to the "lower" section, where the heat exchanger bundle cleaning occurs; the "west" pad corresponds to the "upper" section, where the heat exchanger bundle inspections are performed. See Attachment I-J.3.

Person(s) Responding and/or Consulted:
Armour, Michael
Monson, Michael
Spangler, Erick

Documents Consulted/Examined/Referenced:

Question K.1:

Provide a list of all hazardous secondary waste materials that are inserted into the delayed coker. Include in the list the total amount in gallons or tons per year of each secondary waste material inserted into the delayed coker and specifically where in the coking process the hazardous secondary material is inserted. Provide a delayed coker figure which shows exactly where each of the delayed coker insertion points are located. Also, provide EPA with copies of coke product analytical data for 2012, 2013, 2015 and 2015 to date that demonstrates the coke product generated by Shell, when secondary waste materials is used

to produce the coke product, does not meet hazardous waste characteristics (e.g., TCLP for selenium).

Answer/Comments:
One secondary hazardous waste stream is inserted into the delayed coker: the Shaker Liquids. This is a combined stream consisting of primary oil/water/solid separation sludge (F037), secondary (emulsified) oil/water/solid separation sludge (F038), heat exchanger bundle cleaning sludge (K050), and API separator sludge (K051). The sludge is injected into the Coke Drums at the bottom of the drum during the Quench cycle (see Attachment I-K.1.a).

Coke samples were tested prior to 2012 to verify that the coke product did not exceed the TCLP limits, but no samples were taken or analyzed from 2012 to 2014. A sample was analyzed in July 2015, and the results are included as Attachment I-K.1.b.

Person(s) Responding and/or Consulted:
Monson, Michael
Redding, Aaron

Documents Consulted/Examined/Referenced:
TestAmerica Analytical Report 720-65862-1, DCU COKE-2015
Drawing D-570680
Drawing D-570683

Question L.1:

Provide a detailed description of each surface impoundment used to treat wastewater generated by Shell. Include in the description the volume, dimensions (depth, length, and width, construction date, type of construction (e.g., raise embankment, lined), and if lined, a description of the liner.

Answer/Comments:
The requested information is contained in the table below.

Person(s) Responding and/or Consulted:
Armour, Michael
Gieber, Dave
Jones, Wayne

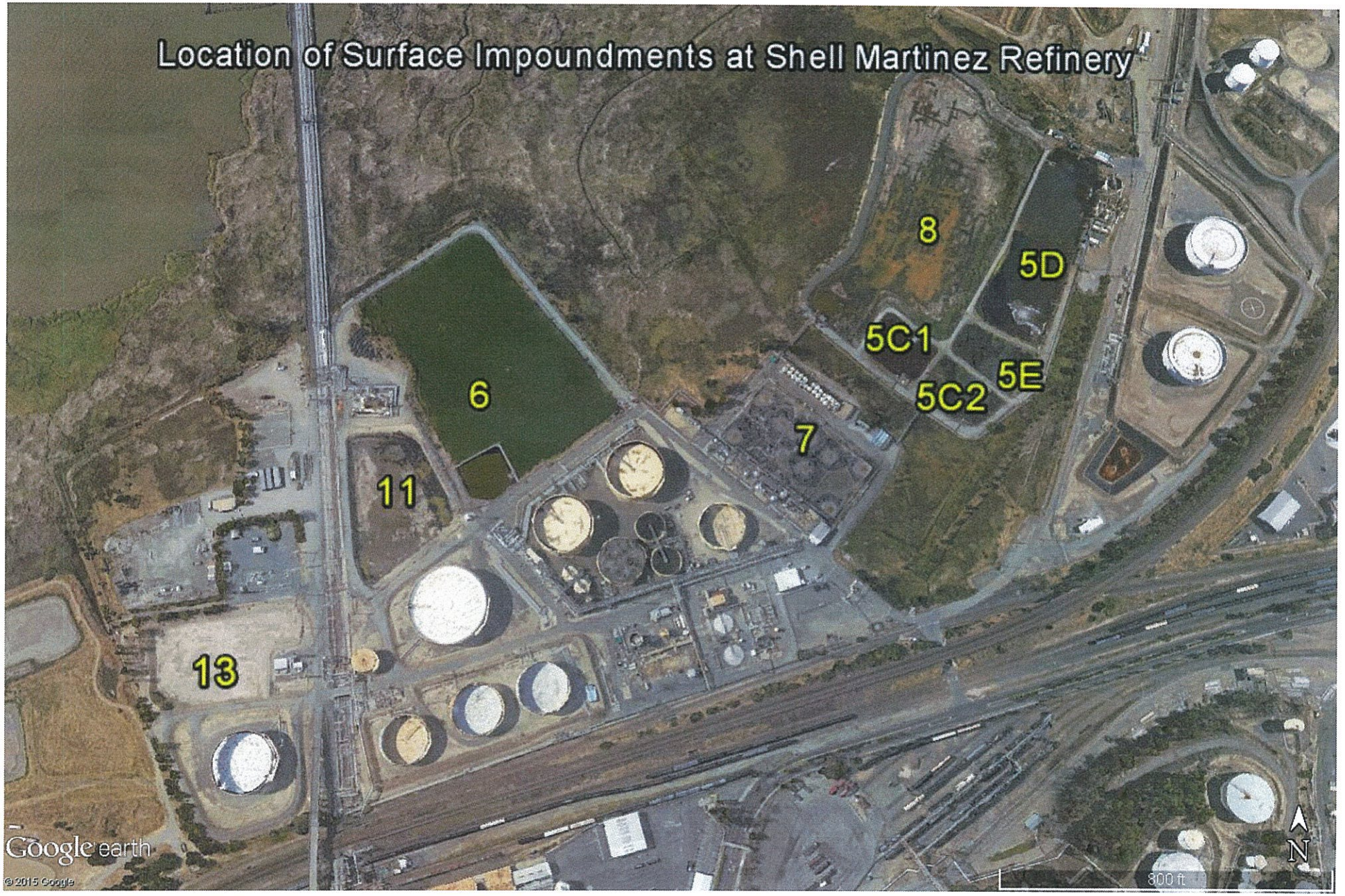
Documents Consulted/Examined/Referenced:
Shell's Response to November 2, 1999 EPA's Survey of Surface Impoundments Information Request
Project 20807 Design Book
Report of Waste Discharge and Solid Waste Assessment Test Report, Inactive Waste Disposal Units B and PS, April 30, 1989
Shell Martinez Refinery CHIT List
Google Earth

Surface Impoundment	Function	Approximate Volume (MMgal)	Approximate Depth (ft)	Approximate Length (ft) (*)	Approximate Width (ft) (*)	Construction Date	Type of Construction	Liner (Y/N)
Pond 7	Effluent Treatment Plant #1 biotreater	3.8	9	374	203	1970	Raised embankment	N
Pond 5C1	Settling and surge pond for biologically treated wastewater prior to routing to selenium precipitation unit.	1	5.5	160 to 180	130 to 140	1992 (**)	A slurry wall two feet wide and trenched two feet into the naturally occurring bay mud surrounds the outside perimeter of the pond. The slurry wall material is an engineering material consisting of clay, sand, and bentonite.	N
Pond 5C2	Settle solids in the selenium plant effluent prior to pumping treated effluent through Granular Activated Carbon vessels to the E-001 discharge point	1	6.1	175 to 200	110 to 140	1992 (**)	A slurry wall two feet wide and trenched two feet into the naturally occurring bay mud surrounds the outside perimeter of the pond. The slurry wall material is an engineering material consisting of clay, sand, and bentonite.	N
Pond 5D	Remove selenium from biologically treated wastewater using ferric chloride precipitation process.	4	6.75	600 to 620	160 to 200	1992 (**)	A slurry wall two feet wide and trenched two feet into the naturally occurring bay mud surrounds the perimeter of the pond. The slurry wall material is an engineering material consisting of clay, sand, and bentonite.	N
Pond 5E	Settling and surge pond for biologically treated wastewater prior to routing to selenium precipitation unit.	1	6.2	200 to 225	110 to 140	1998	A slurry wall two feet wide and trenched two feet into the naturally occurring bay mud surrounds the perimeter of the pond. The slurry wall material is an engineering material consisting of clay, sand, and bentonite.	N
Pond 6	Wastewater/stormwater storage with oil water separation	15	2.9	680 to 700	375 to 460	1970	Raised embankment	N
Pond 8	Wastewater/stormwater storage with oil water separation	14	6.8	700 to 900	180 to 450	1992 (**)	A slurry wall two feet wide and trenched two feet into the naturally occurring bay mud surrounds the perimeter of the pond. The slurry wall material is an engineering material consisting of clay, sand, and bentonite.	N
Pond 11	Wastewater/stormwater storage with oil water separation (only used during high rainfall periods)	4	10	250 to 400	170 to 270	used in this services starting in mid-1980s (***)	Raised embankment	N
Pond 13	Wastewater/stormwater storage with oil water separation (only used during high rainfall periods)	3	10	250 to 350	75 to 250		Raised embankment	N

(*) As can be seen in the attached diagram, these impoundments are generally not geometrically symmetrical rectangles. Therefore, a range has been presented.

(**): In 1992, Ponds 9 and 10 were consolidated into sections of Ponds 8, 5C-1, 5C-2, and 5D, and in 1998, Pond 5E.

(***) These two ponds are part of waste management units regulated by San Francisco Regional Water Quality Control Board Order R2-2013-0034. At some point in the mid-1980s they started to be used stormwater/wastewater impoundments during heavy rain storms when needed to provide surge capacity for the effluent treatment plant.


Location of Surface Impoundments at Shell Martinez Refinery
8
5D
5C1
5E
5C2
6
7
11
13
Google earth
© 2015 Google
N
800 ft

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 23, 2015

CERTIFIED MAIL NO. 7015 0640 0001 5561 3592
RETURN RECEIPT REQUESTED

Natalie Braden
Environmental Affairs Manager
Shell Oil Products US
3485 Pacheco Blvd.
Martinez, CA 94553

RE: **Request for Information In re: Shell Oil Products US**
EPA Identification Number: CAD009164021

Dear Ms. Braden:

The United States Environmental Protection Agency (EPA), Region 9 hereby requests additional information following the March 23, 2015 through March 30, 2015 compliance evaluation inspection conducted at the Shell Oil Products US' (Shell) operations located at 3485 Pacheco Boulevard, Martinez, California 94553. The information being requested will supplement observations made by the EPA inspection team.

Pursuant to EPA's authority under Section 3007(a) of the Resource Conservation and Recovery Act (RCRA) [42 U.S.C. § 6927(a)], Shell is required to submit the information and documents listed in Attachment I of this letter using the instructions included in Attachment II. Also, complete and submit the certification included in Attachment III.

Failure to respond fully and truthfully may result in enforcement action by EPA pursuant to Section 3008(g) of RCRA (42 U.S.C. § 6928(g)). These statutory provisions authorize EPA to seek the imposition of penalties of up to $37,500 per day of noncompliance. Please be further advised that provision of false, fictitious or fraudulent statements or representations may subject you to criminal penalties under 18 U.S.C. § 1001. The information you provide may be used by EPA in administrative, civil or criminal proceedings.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act because it is not a collection of information within the meaning of 44 U.S.C. §§ 3502(3), 3507, and 3512. *See*, *also*, 5 CFR §§ 1320.3(c), 1320.5, and 1320.6(a). Furthermore, it is exempt from OMB review under the Paperwork Reduction Act because it is part of

an investigation of a specific individual or entity. 44 U.S.C. § 3518(c)(1); 5 CFR § 1320.4.

Your response to this request must be made by letter, signed by a duly authorized official, and submitted to the EPA within thirty (30) calendar days from the date of your receipt of this letter. Please address the submittal to:

Sharon Lin
Mail Code: ENF-2-2
Waste and Chemical Section
Enforcement Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
e-mail: lin.sharon@epa.gov

In lieu of submitting the requested response by mail, Shell may submit the response as portable document files via electronic mail.

If you have any questions regarding this letter, please contact Sharon Lin at (415) 972-3446 or lin.sharon@epa.gov.

Sincerely,

Douglas K. McDaniel
Chief, Waste and Chemical Section
Enforcement Division

cc: Teng "Andy" Yang, California Department of Toxic Substances Control
Melissa J. Hagan, Contra Costa County, Health Services

Enclosures

ATTACHMENT I

Therefore, pursuant to EPA's authority under Section 3007(a) of RCRA, Shell is requested to submit to EPA the following information:

A. RCRA Waste

1. For the following information request, please refer to the undated table prepared by Shell titled *Shell Oil Products US-Martinez Refinery, Total Waste Generated-2014.*
   a. List the units/processes by which the RCRA wastes in the table were generated.
2. Please provide a list of excluded wastes that are exported to a foreign country to be reclaimed. The list must include the following information, quantity of excluded waste generated per year and the facility source(s) of the excluded waste. Additionally provide documentation that demonstrates that Shell has complied with the export notification requirements for each of the streams listed. *see 40 CFR § 261.4(a)(25)*
3. Shell's 2014 Biennial Report indicates the facility generated F037 as a single waste stream in 2013. However, F037 as a sole hazardous waste stream has not been manifested since 2012, based on data from the *California Department of Toxic Substances Control, Hazardous Waste Tracking System.* Please explain how the F037 waste has been managed by Shell from 2012 to present.
4. Shell's 2014 Biennial Report indicates that the facility shipped 93.10 tons of a combined F037, F038, K050 and K051 waste stream (Shaker Sludge) to Clean Harbors, Aragonite, UT (Clean Harbors) facility. Clean Harbors' 2014 Biennial Report identifies that 84.65 tons of this waste stream generated by Shell was received by Clean Harbors. Please explain the difference in quantities reported by each of the facilities.

B. Recovered Oil Process

1. Please provide the following information regarding the recovered oil process:
   a. A flow diagram of the recovered oil process. Label each unit of the process (e.g., thermal oxidizer, centrifuge).
   b. Please include all process materials and wastes inputs in average gallons per day to the process as well as process outputs as average gallons or pounds per day.
      i. Confirm that all inputs to the Recovered Oil Process are via Tank 15096. If any other tanks, including mobile tanks are used to receive and store materials to be processed through the Recovered Oil Process, please identify by tank number, location, and capacity.
   c. For each unit of the process indicate which permits (including permit holder, permit number and permit unit number) under which the units are operating (e.g., tiered, air pollution control), including any contractor obtained permits required for the specific unit.
   d. For each unit of the process, provide the monitoring and inspection records for 2012, 2013, 2014 and 2015 required by regulatory agency(ies).
   e. Design and operation specifications for each unit of the process including the thermal oxidizer.

f. Describe the management of the waste streams generated from the process and how waste determinations associated with each waste streams were made. If the determinations were based on analytical results, please provide all the analytical results developed by Shell or its contractors since January 1, 2012.

g. Describe the material(s) or waste(s) that is removed from the Recovered Oil Process which is sent to Clean Harbors-Aragonite or Clean Harbors-Buttonwillow.

C. Flare Sump Operations

1. Provide a total number of flare sumps located at the Shell facility and provide a corresponding location figure identifying where each flare sump is located. Explain how accumulated liquids are managed from each one of the flare sumps.
2. For the following questions, please refer to Photograph CIMG2535. There is a horizontal tank located in the upper right section of the photograph, near a flare sump. The last three visible digits of the numbered tank reads: "681":
   a. Describe the purpose of the horizontal tank.
   b. List the types of liquids that are captured, stored and/or treated in the tank. Include in the list the approximate average gallons per day of each type of liquid captured, stored, and/or treated in the tank. Additionally, indicate on the list how each of the liquids removed from the horizontal tanks are managed.
      i. For each type of liquid describe if the liquid removal is performed by Shell or its contractor.
   c. If the liquids are hard piped to another tank, sump or process unit, identify the type of unit the liquid(s) is hard piped to (e.g., underground sump, Sump #).
   d. Provide a current figure showing the locations of any similar horizontal tanks.
   e. Provide any liquid removal records generated either by Shell or its contractors since January 1, 2012.

D. Shaker Tank

1. Submit documentation that demonstrates the Shaker Tank at the Liquid Waste Handling Site meets 22 California Code of Regulations (CCR) § 66265 Article 10 [40 Code of Federal Regulation (CFR) § 265 Subpart J] tank requirements (assessment of existing tank system's integrity, containment and detection of releases, evidence of daily inspections). If such documents do not exist, please confirm and provide explanation as to why the tank has not been assessed.

E. Tank V18259 – Quality Assurance Laboratory

1. The following information/documentation for Tank V18259 is being requested:
   a. Provide tank assessment information (certification, engineering diagrams, etc.) for Tank V18259, discarded laboratory materials accumulation tank.
   b. Confirm at the time of the inspection where the contents of the tank were being transferred to (specific unit name and number). For 2012, 2013, 2014 and 2015 to date provide copies of all transmittal records prepared by Shell or its contractors (i.e., internal tracking

documents from the tank to the process unit(s)).

c. Provide a list and a Safety Data Sheet (SDS) of each type of discarded solvent that is placed in the tank. Explain how the discarded solvents placed in the tank are recovered or reclaimed by Shell or its contractors. Provide any supporting documentation that demonstrates that the solvents are legitimately being reclaimed by Shell or its contractors.

d. Confirm that only discarded solvents and associated laboratory samples are placed in the tank. If this is not the case, please provide a list and SDSs of the other materials that are placed in tank.

F. Process Sumps

1. Provide a list and location figure of the facility sumps that potentially receive process spillage. Please indicate which of the sumps listed can discharge to Lake Slobodnik.

G. Waste Treatment and Reclamation

1. Confirm whether recoverable materials and/or wastes are treated[1] in any tanks or containers prior to reclamation at the Shell Martinez facility. Provide a list of all process materials and/or wastes that are treated prior to reclamation, the method of treatment and average monthly treatment rate in gallon per day for each process materials or wastes that are treated prior to reclamation, the tank number of the treatment unit or the type of container (whichever is applicable), the amount and classification of any by-products or wastes generated from the treatment prior to reclamation and from the reclamation process and a current figure where each treatment/reclamation process is located.
2. Please provide the total number of portable containers, commonly referred to by Shell personnel as "R2D2s" used to collect hazardous waste and/or Excludable Recyclable Material.

H. Sandblast Area Waste Determination

1. Provide any waste determination information and/or analysis, if available, of the sandblast grit located at the sandblast area where Brand, Shell and/or other contractors perform sandblasting and painting activities.
2. Provide an inventory of paint products and typical amounts of each product typically used by Brand at the sandblast area, including SDSs for each of the products used.

I. Training

1. Shell is required by 22 CCR §§ 66262.34(a)(4); 66265.16 [40 CFR) §§ 262.34(a)(4); 265.16] to develop a personnel training program that teaches facility personnel in a way that ensures the facility's compliance with the hazardous waste requirements necessary for their job. Shell utilizes contractors to perform work that generates hazardous wastes (e.g., Brand). Based on EPA observations made during the inspection of the sandblast area, the waste management practices of Shell's contractor (Brand) were inadequate. Provide a detailed description of the procedures Shell has in place to ensure contractor compliance with generator hazardous waste management requirements for work performed on behalf of Shell.[2]

---

[1] See 22 CCR 66261.10 for definition of treatment.

[2] See following RCRA Online References:

J. Heat Exchanger Bundle Cleaning Pad

1. Shell provided with EPA a bundle cleaning pad sumps cleaning log dated March 19, 2015. Confirm that the bundle pad trench and sump were cleaned out by Shell's contractor, PSC. Provide the complete name(s) of the PSC person(s) who cleaned out the trench and sump. Other Bundle Pad log information/documentation requested is as follows:
   a. Provide the complete name(s) of the person(s) who performed the cleaning the bundles, sump and bundle pad.
   b. The following was written in the comments section of the log: "Only one sump pump working." Please identify on a current figure the location of the sump that was working and the sump that was inoperable.
   c. The log did not indicate how much heat exchanger bundle cleaning sludge waste (K050) was removed from the sump(s). Please provide the amount of K050 wastes that was removed on March 19, 2015. Also provide the date when K050 waste was first placed in the sump(s) (i.e., prior to March 19, 2015 when was the first heat exchanger bundle placed on the pad for cleaning).
   d. Please confirm whether or not there was any accumulated K050 waste sludge in the inoperable sump prior to March 19, 2015.
      i. Please provide information and/or supporting documentation (e.g., work order) on when and why the sump became inoperable.
      ii. Please confirm whether or not there were any solids removed from the sump prior to making any repairs. If solids were removed, please provide the amount solids in gallons, pounds or tons removed.
      iii. Provide copies of the maintenance records of the inoperable sump for 2014 and 2015, including any cleanouts of the sump required to repair the sump.
   e. The following was also written in the comment section of the log: "PSC cleaned the trench and sump on this date 3-19-15." Please identify on a current figure of the Bundle Cleaning Pad, the exact portion of the trench that was cleaned.
2. Provide documentation (e.g., standard operating procedures) of Shell's inspection program for the Bundle Cleaning Pad that was in place at the time of EPA's 2015 RCRA inspection.
   a. Confirm with appropriate documentation that the Bundle Cleaning Pad inspection program includes inspecting the pad for deterioration, including cracks.
   b. Provide copies of documented Bundle Cleaning Pad inspections completed in 2012, 2013, 2014 and 2015.
   c. Please confirm if Shell or its contractor's perform the inspections. Identify which contractors perform Bundle Cleaning Pad inspections.
   d. For Bundle Cleaning Pad inspections performed by Shell's contractors, provide a written description of the program Shell has in place to ensure the contractor's are performing adequate inspections of the Bundle Pad.
3. EPA uses the terms "east" and "west" bundle pads to describe the two pads. Shell uses the

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http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/2AC12743E59FA3798525670F006C2B72/$file/14069.pdf and, http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/68A3DEE4ACCEC3AA8525670F006BF2C1/$file/11913.pdf.

terms "lower" and "upper" sections to describe the pads. Please provide a current figure of the Bundle Cleaning Pad area that clearly shows what Shell is describing as the lower and upper pads. The figure does not have to be to scale.

K. Delayed Coker Unit

1. Provide a list of all hazardous secondary waste materials that are inserted into the delayed coker. Include in the list the total amount in gallons or tons per year of each secondary waste material inserted into the delayed coker and specifically where in the coking process the hazardous secondary materials is inserted. Provide a delay coker figure which shows exactly where each of the delayed coker insertion points are located. Also, provide EPA with copies of coke product analytical data for 2012, 2013, 2015 and 2015 to date that demonstrates the coke product generated by Shell, when secondary waste materials is used to produce the coke product, does not meet hazardous waste characteristics (e.g., TCLP[3] for selenium).

L. Wastewater Treatment Surface Impoundments

1. Provide a detailed description of each surface impoundment used to treat wastewater generated by Shell. Include in the description the volume, dimensions (depth, length, and width, construction date, type of construction (e.g., raise embankment, lined), and if lined, a description of the liner.

[3]Toxic Characteristic Leaching Procedure

ATTACHMENT II
INSTRUCTIONS

In responding to this Request for Information, apply the following instructions and definitions:

1. Answer Every Question Completely. A separate response must be made to each of the questions set forth in this Information Request. For each question contained in this letter, if information responsive to this Information Request is not in your possession, custody, or control, please identify the person(s) from whom such information may be obtained.

2. Number Each Answer. When answering the questions in Attachment I, please precede each answer with the corresponding number of the question and subpart to which it responds.

3. Number Each Document. For each document produced in response to this Information Request, indicate on the document, or in some other reasonable manner, the number of the question to which it corresponds.

4. Provide the Best Information Available. Provide responses to the best of Respondent's ability, even if the information sought was never put down in writing or if the written documents are no longer available. You should seek out responsive information from current and former employees/agents, if necessary. If you are unable to answer a request in a detailed and complete manner or if you are unable to provide any of the information or documents requested, indicate the reason for your inability to do so. If you have reason to believe that there is an individual who may be able to provide more detail or documentation in response to any request, state that person's name and last known address and phone number and the reasons for your belief.

   If anything is deleted from a document produced in response to this Request for Information, state the reason for and the subject matter of the deletion. If a document/information is requested but is not available, state the reason for its unavailability. In addition, identify any such document by author, date, subject matter, number of pages, and all recipients and their addresses.

5. Identify Sources of Answer. For each question, identify all the persons and documents that you relied on in producing your answer.

6. Continuing Obligation to Provide/Correct Information. If additional information or documents responsive to this Request become known or available to you after you respond to this Request, EPA hereby requests that you supplement your response to EPA.

7. Scope of Request. The scope of this request includes all information and documents independently developed or obtained by research on the part of your company, its attorneys, consultants or any of their agents, consultants or employees.

8. Have an Authorized Person Sign the Response and Certification (Attachment III). The signatory must be an officer or agent who is authorized to respond on behalf of the company or facility.

9. **Confidential Information.** The information requested herein must be provided even though you may contend that it includes confidential information or trade secrets. You may assert a confidentiality claim covering part or all of the information requested, pursuant to Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F. R. § 2.203(b).

If you make a claim of confidentiality for any of the information you submit to EPA, you must prove that claim. For each document or response you claim confidential, you must separately address the following points:

i. clearly identify the portions of the information alleged to be entitled to confidential treatment;
ii. ii.. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);
iii. measures taken by you to guard against the undesired disclosure of the information to others;
iv. the extent to which the information has been disclosed to others, and the precautions taken in connection therewith;
v. pertinent confidentiality determinations, if any, by EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and
vi. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp, or type, confidential on all confidential responses and any related confidential documents. Confidential portions of otherwise nonconfidential documents should be clearly identified. You should indicate the date, if any, after which the information need no longer be treated as confidential. Please submit your response so that all nonconfidential information, including any redacted versions of documents are in one envelope and all materials for which you desire confidential treatment are in another envelope that is clearly marked confidential.

All confidentiality claims are subject to EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. If no such claim accompanies the information when it is received by EPA, then it may be made available to the public by EPA without further notice to you.

If the EPA determines that the information so designated meets the criteria set forth in 40 C.F.R. § 2.208, the information will be disclosed only to the extent, and by means of the procedures specified in 40 C.F.R. Part 2, Subpart B..

ATTACHMENT III
CERTIFICATION OF ANSWERS TO RESPONSES TO REQUEST FOR INFORMATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, that the submitted information is true, accurate and complete, and that all documents submitted herewith are complete and authentic, unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____

NAME (print or type)

_____

TITLE (print or type)

_____

SIGNATURE

_____

DATE

Appendix B
Shell Martinez Refinery
Response to EPA's Information Request
Total RCRA Wastes Generated in 2014
Attachment I-A.1

SHELL OIL PRODUCTS US - MARTINEZ REFINERY
RCRA WASTE GENERATED - 2014

DATE	MANIFEST	FED CODES	State Code	CODE	MATERIAL	TYPE	DEPT	PROCESS/UNIT	TRANS	DM	TSDF	LBS	TONS
2/12/14	011256495JJK	K171	162	17007	CGH Catalyst - K171	RCRA	CP	Catalytic Gasoline Hydrotreater	CRST	Reclaim	DuraTherm	25,185	12.6
2/12/14	011256496JJK	K171	162	17007	CGH Catalyst - K171	RCRA	CP	Catalytic Gasoline Hydrotreater	CRST	Reclaim	DuraTherm	24,410	12.2
1/9/14	007973195JJK	K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	44,260	22.1
2/6/14	007973196JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	39,980	20.0
2/24/14	007973197JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	38,020	19.0
4/17/14	011256007JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	46,580	23.3
5/1/14	011256008JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	41,940	21.0
5/29/14	011256009JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	42,120	21.1
6/5/14	011256010JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	42,440	21.2
6/26/14	011256011JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	42,580	21.3
7/24/14	011256012JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	43,440	21.7
8/14/14	011256013JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	45,320	22.7
9/4/14	011256014JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	41,680	20.8
9/25/14	011256015JJK	D010, K048	371	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	42,880	21.4
10/23/14	011256016JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	42,680	21.3
11/13/14	011256017JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	40,240	20.1
12/4/14	011256018JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	17,680	8.8
12/18/14	011256019JJK	D010, K048	571	14001	COB Fines/Flyash	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	45,080	22.5
6/16/14	006523074JJK	D008	181	00028	Debris w/Lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	6,740	3.4
8/4/14	006523075JJK	D008	181	00028	Debris w/Lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	3,220	1.6
2/13/14	006523073JJK	D008	181	00028	Debris with lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	3,920	2.0
4/23/14	007972210JJK	D008	181	00028	Debris with lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	7,720	3.9
11/11/14	006523076JJK	D008	181	00028	Debris with lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	3,960	2.0
3/21/14	011255099JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Pride	Reclaim	Cat Recovery	32,517	16.3
3/21/14	011255100JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Pride	Reclaim	Cat Recovery	31,919	16.0
3/25/14	011255101JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Pride	Reclaim	Cat Recovery	35,204	17.6
3/27/14	011255102JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Pride	Reclaim	Cat Recovery	25,465	12.7
3/31/14	011255103JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Pride	Reclaim	Cat Recovery	29,938	15.0
4/1/14	011255104JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	35,502	17.8
4/2/14	011255105JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	33,186	16.6
4/7/14	011255106JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	34,261	17.1
4/8/14	011255107JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	35,593	17.8
4/9/14	011255108JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	30,970	15.5
4/9/14	011255109JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	32,684	16.3
4/10/14	011255110JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	33,714	16.9
4/11/14	011255111JJK	K171	162	10001	DHT Catalyst - K171	RCRA	DCU	Distillate Hydrotreater	Brian Monday	Reclaim	Cat Recovery	33,445	16.7
4/15/14	007972964JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	27,060	13.5
4/23/14	007972965JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	27,460	13.7
4/30/14	007972966JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	27,760	13.9
5/7/14	007972967JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	26,980	13.5
5/28/14	007972968JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	13,980	7.0
6/3/14	007972969JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	29,000	14.5
6/18/14	007972970JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	27,240	13.6
7/30/14	011255341JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	21,720	10.9
8/4/14	007972972JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	30,980	15.5
8/13/14	007972973JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	28,880	14.4
8/18/14	011255391JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	33,020	16.5
11/17/14	011256599JJK	D018	352	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	31,000	15.5
11/19/2014	011256600JJK	D018	352	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	29,000	14.5
11/19/14	011256622JJK	D018	352	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	29,680	14.8
11/24/14	011256601JJK	D018	352	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	26,720	13.4
11/24/14	011256627JJK	D018	352	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	26,400	13.2
12/8/14	011255392JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	30,920	
12/15/14	011256602JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	28,480	14.2
12/29/14	011256672JJK	D018	223	09052.1	ECO: Rec Oil w/Benzene	RCRA	Log	Recovered Oil Processing	PSC	Incinerate	CH - Aragonite	13,640	6.8
8/25/2014	011255436JJK	K171	162	10001	HGHT CATALYST	RCRA	DCU	Heavy Gasoline Hydrotreater	American Transport	Reclaim	DuraTherm	16608	8.304
8/25/2014	011255437JJK	K171	162	10001	HGHT CATALYST	RCRA	DCU	Heavy Gasoline Hydrotreater	American Transport	Reclaim	DuraTherm	20746	10.373
2/12/14	012864610JJK	D001	551	06003	Lab pack DOT drums/containers	RCRA	QA	QA Lab	Ingenium	Incinerate	CH - Aragonite	35	0.0
4/9/14	012462999JJK	D001	551	06003	Lab pack DOT drums/containers	RCRA	QA	QA Lab	Ingenium	Incinerate	CH - Aragonite	100	0.1
10/28/14	013498745JJK	D001, D002, D039, P022, U210	551	06003	Lab pack DOT drums/containers	RCRA	QA	QA Lab	Ingenium	Incinerate	CH - Aragonite	50	0.0
12/10/14	013499822JJK	D002	551	06003	Lab pack DOT drums/containers	RCRA	QA	QA Lab	Ingenium	Incinerate	CH - Aragonite	50	0.0
4/9/14	012462998JJK	D001, D035, F003, F005	214	06002	Lab pack drums (Vials w/Organics)	RCRA	QA	Central Maintenance Department	Ingenium	Fuel Blend	Rineco - AR	1,100	0.6
12/1/14	006509654FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	36,300	18.2
12/1/14	006509655FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	27,800	13.9
12/1/14	006509656FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	27,900	14.0

SHELL OIL PRODUCTS US - MARTINEZ REFINERY
RCRA WASTE GENERATED - 2014

DATE	MANIFEST	FED CODES	State Code	CODE	MATERIAL	TYPE	DEPT	PROCESS/UNIT	TRANS	DM	TSDF	LBS	TONS
12/1/14	006509657FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	36,640	18.3
12/1/14	006509658FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,700	14.4
12/1/14	006509664FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	36,840	18.4
12/1/14	006509665FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	35,700	17.9
12/1/14	006509666FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	36,760	18.4
12/2/14	006509662FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	26,340	13.2
12/3/14	006526356JJK	F037, F038, K169	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	14,380	7.2
12/5/14	006509682FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	26,500	13.3
12/5/14	006509683FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	30,920	15.5
12/5/14	006509684FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	26,280	13.1
12/8/14	006509685FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	32,290	16.1
12/8/14	006509688FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	25,590	12.8
12/8/14	006509689FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	25,770	12.9
12/9/14	006509690FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,539	14.3
12/10/14	006509691FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	27,990	14.0
12/10/14	006509692FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,320	14.2
12/13/14	006509693FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	23,760	11.9
12/14/14	006509694FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	25,780	12.9
12/15/14	006509659FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,500	14.3
12/15/14	006509660FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	29,940	15.0
12/15/14	006509661FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,970	14.5
12/28/14	006509668FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,540	14.3
12/28/14	006509676FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	31,020	15.5
12/28/14	006509677FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	26,140	13.1
12/28/14	006509678FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	29,720	14.9
12/28/14	006509679FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	27,680	13.8
12/28/14	006509681FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	30,460	15.2
12/28/14	006509686FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	30,300	15.2
12/29/14	006526357JJK	F037, F038, K169	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	16,100	8.1
12/30/14	006509674FLE	F037, F038	222	09053	Pri Solids F037, F038	RCRA	Log	Effluent Treatment Plant	Clean Harbors	Landfill	Envirogreen	28,740	14.4
10/2/14	006526450JJK	K048	181	14019	Refractory w/K048	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	34,960	17.5
12/9/14	006526451JJK	K048	181	14019	Refractory w/K048	RCRA	Util	CO Boilers	PSC	Landfill	Clean Harbors	26,580	13.3
1/22/14	007973089JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	32,360	16.2
3/19/14	007973090JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	27,660	13.8
5/28/14	007973091JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	14,680	7.3
6/10/14	007973092JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	28,180	14.1
9/8/14	007973093JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	9,100	4.6
12/3/14	011255318JJK	F037, F038, K050, K051	352	09054	Shaker w/ F037/038, K050/051	RCRA	Log	Effluent Treatment Plant	PSC	Incinerate	CH - Aragonite	14,980	7.5
3/25/14	007972527JJK	D018	161	17002	Spent Equilib Cat - w/D018	RCRA	CP	Catalytic Cracking Unit	PSC	Incinerator	CH - Aragonite	25,420	12.7
4/2/14	007972528JJK	D018	161	17002	Spent Equilib Cat - w/D018	RCRA	CP	Catalytic Cracking Unit	PSC	Incinerator	CH - Aragonite	33,140	16.6
4/7/14	011255212JJK	D018	161	17002	Spent Equilib Cat - w/D018	RCRA	CP	Catalytic Cracking Unit	PSC	Incinerator	CH - Aragonite	18,060	9.0
6/23/14	007972623JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	32,760	16.4
6/25/14	007972624JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	32,660	16.3
6/30/14	007972625JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	33,680	16.8
7/7/14	007972626JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	29,220	14.6
7/9/14	007972627JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	32,140	16.1
7/14/14	007972628JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	32,600	16.3
7/16/14	007972629JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	34,380	17.2
7/21/14	007972631JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	34,560	17.3
7/23/14	007972632JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	31,980	16.0
7/28/14	007972633JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	31,000	15.5
8/6/14	007972630JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	34,060	17.0
8/11/14	011255400JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	31,000	15.5
10/6/14	011255401JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	33,840	16.9
10/8/14	011255402JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	35,540	17.8
10/8/14	011256538JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	35,120	17.6
10/20/14	011255403JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	30,420	15.2
10/27/14	011255405JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	29,660	14.8
11/3/14	011256576JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	32,400	16.2
11/5/14	011256578JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	33,400	16.7
11/10/14	011256580JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	31,160	15.6
11/10/14	011256582JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	29,440	14.7
11/12/14	011256586JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	34,460	17.2
11/12/14	011256588JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	30,160	15.1
11/17/14	011256590JJK	K169, K170	352	09060	Tk ECO w/K169-170	RCRA	Log	Crude Oil Storage	PSC	Incinerator	CH - Aragonite	31,260	15.6

SHELL OIL PRODUCTS US - MARTINEZ REFINERY
RCRA WASTE GENERATED - 2014

DATE	MANIFEST	FED CODES	State Code	CODE	MATERIAL	TYPE	DEPT	PROCESS/UNIT	TRANS	DM	TSDF	LBS	TONS
4/9/14	012462998JJK	F005	331	00050	Waste Paint / Aerosols	RCRA	SMR	Central Maintenance Department	Ingenium	Recycle	Rineco - AR	700	0.4
8/13/14	013498558JJK	D001, D035, F003	331	00050	Waste Paint / Aerosols	RCRA	SMR	Central Maintenance Department	Rineco	Recycle	Rineco	200	0.1
12/10/14	013499821JJK	D001, D035, F003	331	00050	Waste Paint / Aerosols	RCRA	SMR	Central Maintenance Department	Rineco	Recycle	Rineco	850	0.4
2/12/14	012864616JJK	D001, D035, F003, F005	331	00050	Waste Paint / Solvents / Aerosols	RCRA	SMR	Central Maintenance Department	Rineco	Fuel Blend	Rineco	1,350	0.7
10/8/14	013498748JJK	D001, D035, F003, F005	331	00050	Waste Paint / Solvents / Aerosols / Lab Pack (Vials w/ Organics)	RCRA	SMR	Central Maintenance Department	Ingenium	Fuel Blend	Rineco	730	0.4
2/13/14	011256300JJK	D008	181	00029	Waste Sandblast w/Lead	RCRA	SMR	Central Maintenance Department	PSC	Landfill	Clean Harbors	12,560	6.3
6/11/2014	012462761JJK	D001, D035, F003, F005	331	00050	Waste Paint / Aerosols	RCRA	SMR	Central Maintenance Department	Ingenium	Fuel Blend	RINECO	360	0.18

Appendix B
Shell Martinez Refinery
Response to EPA's Information Request
Paint Products Safety Data Sheets
Attachment I-H.2

carboline

Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 0522S1NL

Product Name: THINNER 2

Revision Date: 07/01/2015

Supercedes Date: 05/30/2015

1.2 Relevant identified uses of the substance or mixture and uses advised against Thinner for industrial coatings - Industrial use

1.3 Details of the supplier of the safety data sheet

Manufacturer:
Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146

Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645

Datasheet Produced by: Burst, Chris - ehs@stoncor.com

1.4 Emergency telephone number:
CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Aspiration Hazard, category 1
Eye Irritation, category 2
Flammable Liquid, category 2
Reproductive Toxicity, category 2
STOT, repeated exposure, category 2
STOT, single exposure, category 3, NE
Skin Irritation, category 2

2.2 Label elements

Symbol(s) of Product

Signal Word

Danger

Named Chemicals on Label

METHYL ETHYL KETONE, TOLUENE

GHS HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Aspiration Hazard, category 1	H304	May be fatal if swallowed and enters airways.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: Get medical advice/attention.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
108-88-3	TOLUENE	75-100
78-93-3	METHYL ETHYL KETONE	10-25

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
108-88-3	GHS02-GHS07-GHS08	H225-315-319-336-361-373	0
78-93-3	GHS02-GHS07	H225-319-336	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.
AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.
AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Ensure adequate ventilation. Evacuate personnel to safe areas. Evacuate personnel to safe areas. Remove all sources of ignition. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with

non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
TOLUENE	75-100	20 PPM	N/E	375 MGM3	N/E	
METHYL ETHYL KETONE	10-25	200 PPM	300 PPM	590 MGM3	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious glovesRequest information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Clear Liquid
Physical State	Liquid
Odor	Solvent
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	173 F (78 C) - 232 F (111 C)
Flash Point, (°C)	-4
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	1.3 - 10.1
Vapour Pressure, mmHg	36.3
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	850
Specific Gravity (g/cm3)	0.85

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
108-88-3	TOLUENE	5000 mg/kg rat oral	12267 mg/kg, dermal, rabbit	8000 ppm/4 hrs, rat, inhalation
78-93-3	METHYL ETHYL KETONE	2194 mg/kg rat, oral		34.5 mg/L/ 4 hour rat, inhalation

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): Unknown

IC50 72hr (Algae): Unknown

LC50 96hr (fish): Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
108-88-3	TOLUENE	6 mg/l (Daphnia magna)	12.5 mg/L (Algae)	5.8 mg/L (Fish)
78-93-3	METHYL ETHYL KETONE	308 mg/l (Daphnia magna)	No information	2993 mg/l (Pimephales promelas)

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	**UN number**	UN1263
14.2	**UN proper shipping name**	Paint Related Material
	Technical name	N/A
14.3	**Transport hazard class(es)**	3
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	II
14.5	**Environmental hazards**	Unknown
14.6	**Special precautions for user**	Unknown
	EmS-No.:	F-E, S-E
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
TOLUENE	108-88-3

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.
Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
TOLUENE	108-88-3

International Regulations: As follows -

* Canadian DSL:

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Reasons for revision

No Information

No Information

Appendix B
Shell Martinez Refinery
Response to EPA's Information Request
Bundle Pad Solids Sump Cleaning Log
Attachment I-J.2.b

Attachment I-J, 2-b

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
1-15-15	YES (NO)	(YES) NO		C.V.

COMMENTS:

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
2-18-15	YES (NO)	(YES) NO		AM

COMMENTS:

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
3-19-15	YES (NO)	(YES) NO	3-19-15	A.M

COMMENTS:

Only one Sump pump working. PSC cleaned Trench and sump on this Date 3-19-15 SOLIDS Remain

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
4-14-15	YES NO	YES NO		C.K.

COMMENTS:

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
5-14-15	YES (NO)	(YES) NO		A.M.

COMMENTS:

BUNDLE PAD SOLIDS SUMP CLEANING LOG

FORM TO BE FILLED OUT MONTHLY AND SENT TO LOGISTICS HAZARDOUS WASTE COORDINATOR

SIGNOFF CERTIFYING THAT BUNDLEPAD SOLIDS HAVE BEEN REMOVED FROM BUNDLEPAD SUMP AND SOLIDS HAVE BEEN TAKEN TO LOGISTICS LIQUID HANDLING SITE FOR COKER SOLIDS PREPARATION.

SOLIDS ARE FOR DCU FEED AND ARE TO BE DISCHARGED INTO DCU FEED PREP TANKS.

MONTH/YEAR:

DATE OF INSPECTION	MONTHLY SUMP INSPECTION SUMP EMPTY of SOLIDS? (IF NO, REMOVE SOLIDS)	MONTHLY SUMP INSPECTION SUMP PUMP WORKING (LOW LIQUID LEVEL)? IF NO, ARRANGE FOR MAINTENANCE	DATE OF SOLIDS REMOVAL	INITIALS
6-17-15	YES (NO)	(YES) NO		A.M

COMMENTS: